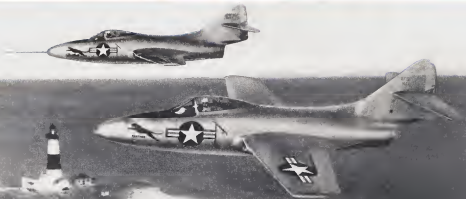


AVIATION WEEK

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JAN. 31, 1949



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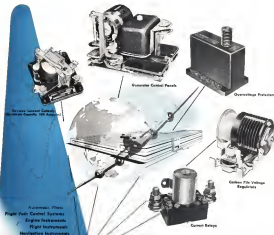
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THE AVIATION WEEK

CAB Wields Big Stick

The life and death power wadded by the Civil Aeronautics Board over all segments of the U. S. air transport industry may be used with telling effect during 1960.

Since its creation in 1938, CAB has devoted much of its energy to enlarging the domestic and international route network and to certification of new carriers. Even during the past two years, when most spots developed in the traffic picture and deficits throughout the industry girts to alarming proportions, the Board did not stop, but merely slowed its expansion of the air map.

The Door Is Closing

Now, however, movement—and even companies which for three or more years have been fighting for certification—are finding the door of opportunity is not too far from closing fast. Non-scheduled airlines, all cargo carriers and some freighters seem likely to be the first victims. But even the trustees are holed for a blow.

CAB Chairman O'Connor has emphasized that the Board's power to alter, amend, modify or suspend a carrier's routes in the public interest may be used more frequently in the future. The chairman states bluntly that he disagrees with any theories which view "with respect to the necessity in perpetuity of a certificate of public convenience and necessity." Concerning this view, CAB member Harold Jones has asserted that a route certificate is merely a privilege granted by the Board and one which confers no vested property rights.

Passenger carrying airlines active domestically and to Puerto Rico and Alaska probably have the most tenuous lease on life. CAB's proposed withdrawal of the general unscheduled exemption would enable Board enforcement officials to crack down immediately on irregular carriers operating with excessive frequency or irregularity. Most airlines admit they cannot make money if they restrict their flights to a legal pattern. Several have tried conscientiously and have gone out of business. The airlines are making a frantic death-throes effort to solicit public and Congressional support to forestall CAB's death sentence. But the outlook remains bleak.

Extremely Narrow View

Large certificated international operators such as Transocean Air Lines, Alaska Airlines and Seaboard & Western Airlines also are on the narrow side. All have been doing a useful and profitable business carrying passengers to and from foreign ports under contract—frequently for the U. S. armed services and other government agencies. But CAB's view of legitimate contract activity is an extremely narrow one. The Board already has taken enforcement action against major international contract carriers. Whether a full-scale crackdown is in prospect seems to depend in large measure on how closely

these companies can gear their services to national defense requirements and America's growing international contracts under the global "let do it."

Rate of domestic all cargo operations should be known very shortly. Most of the 18 unscheduled carriers that provided their arguments for certification at CAB hearings two years ago are out of business.

Five major all cargo lines were recommended for certification by CAB members in March of last year. But the Board itself is likely to be less generous than its members. Without certification, there is little prospect that any large domestic freight carrier can, or will attempt to, do so business on a scheduled or contract basis. Seaboard & Western Airlines' irregular trans-Atlantic freight operation is jeopardized by the contemplated revision of the unscheduled exemption.

Abandoned Applications

Casualties among the 39 freighters CAB has designated for certification during the past three years appear certain. Late last summer, the Board refused to extend the franchise of Florida Airways past Mar. 31, 1959, but the carrier is still fighting hard for continued existence. Chances that at least three other freighters can ever activate their services seem negligible and the franchises may be cancelled.

CAB has been taking its way slowly and cautiously toward suspension or revamping of trouble-free services which are now authorized on a presumably permanent basis. The Board's investigation to determine whether National Airlines' routes should be transferred to other carriers has given the industry a severe headache. In refusing to discuss the NAL probe, CAB hinted broadly that it may be the first in a series of similar moves to revise and improve the route pattern "for the good of the industry." CAB Chairman O'Connor believes the Board has a responsibility to take the initiative in situations which are obviously uneconomic. He was warned the industry against obstinateness. "Some personal and corporate ambitions will have to be subordinated," O'Connor declared in pointing out that serious consideration must be given to desirable mergers and consolidations.

"Surgery" May Be Needed

O'Connor's strong stand recalls the statements made by former CAB Chairman James M. Lindsay back in 1947 when the Board decided to suppress the need for activating Chicago & Southern Air Lines' Caribbean routes in view of the high subsidies involved. Lindsay said fully that "surgery" might be the only remedy for the situation.

This month, in the All American Airways decision, CAB rejected arguments that it lacked the power to suspend a certificate. The Board said it could have suspended operation of the pickup service even if All American had not given its consent.

► Two experimental models of Chance Vought's Corsair (D77U-31) have flown from Patuxent, Md., to the Vought Dallas plant in the first cross-country flights of the supersonic, twin-jet carrier fighter. Stages were made at Marietta, S. C., Montgomery, Ala., and Shreveport, La. Bill Miller and Bob Baker, Chance Vought test pilots, flew the planes.

► Vought plant in Dallas is installing new afterburners on standard engines used on the 33 service test models of the F4U-1 now being assembled in Dallas. Part of the 33 F4U-1s is expected to sell off the Dallas line this month.

► Boeing plans two final assembly lines at its Renton plant for accelerated delivery of C-97A Stratofreighters to the Air Force. Renton employment will be increased to 1600 by Mar. 3 when the assembly lines are expected to begin operations.

► Air Force and Convair have not yet decided what model jet engine will be used under the wings of the Convair RB-36 to produce superior power for the four Pratt & Whitney Wasp Major 3500 hp engines normally used. Allison J-35 and J-45 are currently being given top consideration with the General Electric J-47 also a possibility. In no case will the Allison J-35 centrifugal flow jet be used, as was erroneously reported in some publications. The proposed RB-36 including jet turbines, similar to those on the Boeing XB-47, require an axial flow engine for rearmounting purposes.

► Navy Specimen VLS-3 of MAXIS test specimens on the Berlin airlift during December by delivering 6575 tons of cargo. This was 1444 tons above the specimen's assigned weight and set a new record for Berlin airdrop efficiency. VLS-3 also set an airdrop record with 4.5 trips per plane during a 24 hr. period on Dec. 15. The squadron made 51 round trips to Berlin carrying full loads in their C-54s and from the Lockheed C-124.

► Aviation Maintenance Corp., Van Nuys, Calif., may be the production agency of Bureman Aircraft Corp. in manufacture of the latter's twin-pusher four-passenger light transport, the "Bureman Bregester". Bureman previously filed in manufacture at Santa Barbara under a new S-25 mailer corporation, Bureman Aviation Inc., has been abandoned. Frequent modification of the successfully firm prototype Bregester is under way at AMCC's shops, and a drive test unit is under construction for CAA testing. J. B. Bureman, company president, anticipates first delivery of the plane before the end of the year. Plans call for a usual production run of five aircraft which probably will be joined at \$23,500 each.

► A two-engine engine originally designed for the Lockheed L-1049, and credited with 52 hp hp thrust is now destined for use in a new market plane being developed as a quarter-hauler, by La Crosse, Mo. D. Wilco, long-range weather pilot at VanDusen Farms AFB, Calif. He is also using the Little Dragons which, according, like the engine, flow supplies after the Lockheed budget phase project was shelved.

► USAF test jet prototypes of at least two 830 mph, interception during 1949. Both the Lockheed F-90 and the Republic F-91 are among candidates. General's F-92 project already has one developmental model flying at Muroc where the F-90 and F-91 are scheduled to make their initial flights under a heavy budget of services.

► State rate regulations point out that compressibility test power is apt to be the limiting factor on B-36 speed. USAF and Convair are attempting to increase the present 536 mph maximum true air speed of 40,000 ft. in the B-36 by adding four jet engines to the aircraft in West Moline. Since the B-36 design has a limitation of 5000 ft. at 465 mph at altitudes above 15,000 ft., the slide rule experts believe it may not be able to operate the giant bomber faster than 450 mph at its bounding altitudes.

Big 5 Ask \$1 Fare Rise

An agreement by the five major airlines to increase all one-way fares by \$1 was filed with CAA for approval last week. Eastern, American, Northwest, TWA and United specified no effective date but then announced they would file appropriate fares shortly. The fare will be made "provided similar action is taken by other affiliated carriers at competitive points." Proportionate increases will be made in most trip fares and other fares which are variable, with part to operate documents, the agreement stated.

DOMESTIC

Dr. George J. Mend, co-founder of Pratt & Whitney Aircraft Co., took a divorce of Weston Aircraft Corp., died at his home in West Hartford, Conn., after a long illness. He was 57. His wife was Margaret, nee Weston. He was a pioneer in jet engines, in 1925, of the first West Wing engine. He retired in 1939 as president and chief engineer of United Aircraft Corp.

Pope Aircraft Corp. under a strong bid for a larger segment of the personal aircraft market Feb. 3, when the new S205S PA-16 Pope Kiwi, lowest priced four-place in the market, is announced at a price of \$10,995. The new model is powered with a 115-hp Lycoming engine, the plane is in some aspects similar to the four-place Pacer. Company which Pope will continue to make. Performance expected: 112 mph cruising speed with 4500 ft. range, 90 mph, landing speed, 125 mph top speed, 680 ft. climb rate at climb.

Part of New York Authority and services serving New York City announced that it will be the start of using L-1049. Based on the month-old decision, now after New York Supreme Court Judge Thermo J. Call agreed to assist in out-of-court settlement.

FINANCIAL

Bendix Aviation Corp. reports consolidated net income for fiscal year ended Sept. 30, 1948, of \$1,280,742, on sales totaling \$161,955,667. Sales of automotive products accounted for about 550 million of the total, with no figure indicated for aircraft sales. Bidding at the fiscal year-end was \$162 million, including engineering projects.

Boeing Aircraft & Mfg. Co. in a preliminary report disclosed 1948 sales of about \$5.5 billion. Net income was \$13,679, equal to \$1.31 a share.

Waco Aircraft Co. reported to Commerce Stock Exchange net loss for year ended Sept. 30, 1948, of \$13,531.81, on sales of \$179,385 in the previous year. Company sales are expected primarily in non-military manufacture.

Safety Office Focus of New CAA Changes

Two present officials both claim to have been promised job when Marriott leaves.

By Alexander Metcher

An impending reshuffle in CAA's Office of Aviation Safety last week saw the latest development in the long-festering agency's reorganization which has kept 17,000 employees on the edge of their seats for the last six months.

At Ketchikan, Alaska, assistant administrator in charge of the office and E. S. Hendry, who maintained as deputy safety administrator after Kodj's transfer last October, were both awaiting the return of Administrator Del Renteria from Mexico to see which one would get the job short to be relinquished by Joe S. Marriott.

S. Marriott's Place—Marriott, characteristically in the "hatchet man" for the new generation, has advised Administrator Renteria that he wishes to return to his West Coast assignment to work upon CAA administration, but has promised to serve in Washington temporarily in a special assignment to aid in the final stages of the reorganization.

Overseen last week, accepted offers of two forthcoming outside studies on the proposed decentralization of CAA for which Marriott has been the primary advocate.

James Patrick—Patrick, agent general decentralization to be extent which would put the bulk of CAA regulatory power in the hands of the regional offices without a strong check in Washington was being asked in many quarters if the various airlines, including representatives of manufacturers, field line operators, and pilots.

New status on CAA's reorganization was to be given by a management study made by a New York firm under CAA contract, and by a special House Committee CAA report, a first draft of which has already been submitted.

Renteria's Case—Donald Nyrop, assistant to Renteria, and his work. Del Renteria planned to announce his decision on the Aviation Safety appointment on his return from Canada later last week. He said Renteria was considering additional names in addition to those in the Renteria newsletter. He mentioned to Marriott.

Koch told his old subordinates that Renteria had given him to understand that he would probably be appointed. But Hendry, at the same group meeting, told the same group of subordinates that Koch, that Nyrop was commanding him to instruct to Marriott, personally with Renteria's agreement. Hendry and the appointment was to have been shared through the Civil Service before Renteria left to go to Mexico for an ICAO conference. But this schedule was not met, apparently because Renteria left a day earlier than he had planned.

Management Report—Nyrop told that the report, concerned with relative assignment details had already been made to CAA by the New York management survey team, that a second was due around Feb. 1 and that a final version would be presented around Mar. 1.

A study of the results of the Renteria CAA reorganization since it was first announced in vague outline Oct. 1 declared such progress. Renteria's statement Oct. 1 that Koch would be transferred to the Office of Aviation Information would be designated to become part of a new aviation development office and that the Office of Field Operations, headed by Howard Rugh, would be designated, primarily as part of Marriott's decentralization plan.

Steve Renteria—Since that time the Office of Aviation Information has been reduced to its former independent status with the same head, Ted Ervin. Howard Rugh has been named assistant administrator in charge of tests and field operations, and now Ervin and Hendry is due to head Aviation Safety.

Both have been under fire within the industry for machinery, tactics, and for harassing interpretations of Civil Air Regulations not under their noses. Hendry is reportedly well known in the Civil Service, industry personnel, and in the industry. CAA officials equally qualified is background for the safety post.

UPAA Blast—Most outspoken critics of the CAA reorganization thus far has been the UPAA based at Renteria's old headquarters of the United Pilots & Mechanics Assn.

"It is no secret that within the last two months the morale of CAA employees has reached an all time low due to lack of confidence in the methods by which Administrator Renteria and his subordinates have set out to organize the Washington office," the UPAA letter asserted.

New Policies—The newsletter referred to Marriott as a "pretentious agent" in complete decentralization of CAA activities to the regions and districts. "Adoption of the policy expounded by Marriott will result in establishment of different policies in each of the nine CAA regions and Washington will be powerless to control them."

The newsletter also criticized an alleged attempt of the administrator to short-cut requirements for a two-engine pilot rating from 40 to 10. It stated that in the future, the proposed purchase of the Airframe, OGA pilot training base from American Airlines and Renteria's recent trip to London and his negotiations about radio programs which had been held in the struggle by "Aeronautical Radio, Inc., Renteria's favorite employer."

Over-qualification—A recent Air Line Pilot Assn. publication attacked proposed "objective" regulations for the airlines and discussed the "over-qualification of over-qualifying the CAA."

"Does the new CAA planning completely that what little leftover air safety regulation that remains after the objective regulations will be applied, and so lack a degree that the right hand will not know what the left hand is doing? Apparently it's actually being proved." the ALPA letter said.

Navy '48 Report Presented by Sullivan

Navy test delivery of 945 piloted aircraft and 713 piloted planes during fiscal 1948, according to Navy Secretary John L. Sullivan, in his annual report for that period. Navy saw 11,771 piloted aircraft in order under contracts authorized in fiscal 1948 and 1949 budgets.

Among the goals of Naval Aviation Bureau, Sullivan listed the following items:

► High Speed Propeller—Definite progress has been made on development of

propellers for super-powered high speed aircraft.

► **Aviatic Avionics**—Radarless stress is being placed on the mounting of jet engines to reduce effects of battle damage. Use of composite materials as a source of stress for aircraft and development of a blow-down body armor for stressors are being investigated.

► **External Storage**—Navy is exploring the best possible shape for external storage containers on aircraft for items such as droppable gas tanks, ammunition, etc.

► **Tactics**—Navy has contracted for a study of the effects of new high speeds on air tactics including long range, angles of possible attack, maneuverability and maneuvering requirements for high speed fighters and bombers.

► **New Materials**—bushman reported substantial progress in use of aluminum and magnesium in basic alloys, best and rapid resistant aircraft structures and more flameproof hydraulic fluid.

► **Automatic Controls**—bushman pointed out that aircraft speed can now be reached without manual control of an airplane as we now know it may no longer be possible. Developments in this field are now aimed at increased use of automatic methods of control.

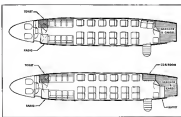
During the 1945 fiscal year the Navy ordered 5949 aircraft and 5335 aircraft engines in its new design in addition to modifying another 1754 aircraft. Total of 272 transport type aircraft were ordered by the Navy in 1945. At the end of fiscal 1945 that July Navy had 2500 planes in storage.

British Seek B-29s From USAF Storage

British are interested in acquiring approximately 150 Boeing B-29 Superfortresses from U. S. Air Force storage plants, according to London reports. U. S. Air Force had official confirmation of the British request last week. Informed Washington sources said the proposed B-29 deal would be pending the foreign military aid program under the proposed North Atlantic Treaty Pact. President Truman has indicated he will submit the plan soon for Senate approval.

Indications are that the British B-29 contract looked out at a snag at the chaffing of each North Atlantic country detailed needs for military aid. A French air mission was recorded in this country for a similar purpose. Neither the French nor British programs can be considered until the North Atlantic pact gets Senate approval.

USAF still has 100 B-29s in inventory storage with another 500 on operational status (400 in use with the other 400 as an operational reserve).



Douglas Describes 'Super DC-3'

Higher cruising speed, increased seating capacity and major structural changes feature modernization plans.

Details on the Douglas Aircraft Company's studies for the DC-3 aircraft are being described by Donald W. Douglas in Santa Monica.

The Super DC-3 will feature a cruising speed of 335 mph, 25 percent capacity, gross weight of 27,000 lb., and a direct operating cost of 1.25 cents per seat mile with a 100 percent load factor.

and 1.75 cents per seat mile with 20 percent load.

► **Structure Changes**—Structurally the Super DC-3 will feature a new wing and empennage, increased engine power, simplified passenger and cargo loading methods and reduced drag through fully retractable landing gear.

Details on the structural changes in the Super DC-3 include the following:

Super DC-3

Dimensions		
Span	99 ft.	
Length	64 m. 7.5 ft.	
Wing area	970 sq. ft.	
Wing load	27 sq. ft.	
Wing sweepback (leading edge)	4 deg.	
Weight		
Max. gross weight	27,000 lb.	
Max. gross weight	26,000 lb.	
Operating weight	15,000 lb.	
Minimum weight	11,000 lb.	
Performance (Estimated performance of B-29B-35, or similar)		
Level flight speed with 87% S.L. rated power (15,000 hp)	330 mph	
at 10,000 ft.	341 mph	
Level flight speed with 80% S.L. rated power (13,000 hp)	317 mph	
at 10,000 ft.	328 mph	
CAA level flight length	3450 ft.	
at 10,000 ft.	3410 ft.	
CAA landing field length	3600 ft.	
at 2000 ft., gross weight of 26,000 lb.	4030 ft.	
at 2000 ft.	4030 ft.	
Two-engine rate of climb at S.L. and rated power	5000 fpm	
Two-engine service ceiling with rated power	36,000 ft.	
Two-engine max. rate of climb	11.5 ft./sec.	

* Capacity of crew, topped fuel and oil, passenger equipment and bulk operating oil capacity.

► **New Wing Plans**—Superbark, and twin boom were incorporated in the new order wing plans. These plans are available and can be replaced quickly. Wing is swept back about 4 degrees in contrast to the almost straight leading edge of the original DC-3. Cargo wing has been extended 14 inches into the wing wing panel. Also, one or two wing panels will be equipped with jettisonable fuel tanks.

► **Revised Tail**—Airs and ops. of both horizontal and vertical tail surfaces have been increased to meet increased drag loads.

► **New Engines**—Choice of either Pratt & Whitney R-2800 or Wright Cyclone R-1000 C-400 engines are offered. Weight of the Super DC-3 is increased 400 lb. with the R-1000 engine installed but some engine power is saved by the same engine on their DC-3 and would save time and money in maintenance. In addition to the engine change the Super DC-3 has DC-4 engine change with electrically operated fuel flaps and a ducted high air speed exhaust.

► **Landing Gear**—Main wheels of landing gear are now fully retractable into engine nacelles. Main wheels have been shifted to reduce the tail wheel downstroke positively. Tail wheel is now retractable in further advance. Landing gear hydraulic system will handle gear extension time to 7 seconds.

► **New Landing Methods**—Integrated landing gear is built into the Super DC-3 cabin door. Fast ramp component which required high landing fields has been eliminated in favor of a low ramp component at wing level behind the cabin door. Baggage stored in two compartments is easily available to passengers as they alight.

► **Increased Passenger Capacity**—Variety of interior seating arrangements is offered ranging from 25 to 35 percent. Crew two non-passenger duties are reduced to the 25 passenger layout while cargo compartments are increased to 15 and 25 passenger versions. Tail seats are located forward and rear of the cabin is occupied by the enlarged cargo and baggage compartments.

► **Crew Comfort**—The Super DC-3 is aimed at solving the airlines' critical equipment replacement problem by a redesign completely. According to Douglas, the Super DC-3 will have a seating speed roughly comparable to CAA requirements on the DC-4. Convair-Lear and Martin B-27 will not be the subject as indicated by Douglas.

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Congressional Scoreboard

Following aviation bills were introduced in Congress last week.

► **Continental Air Transportation**—Legislation which would amend general aviation transportation laws was introduced in the House by Rep. John W. Bricker (R., Ohio), chairman of the House Interstate and Foreign Commerce Committee. The bill would authorize the government to transport personnel and cargo by air, but only on terms which are holding public convenience and necessity as factors.

► **National Defense Establishment**—To be reauthorized under a bill proposed by Rep. William H. Cramer (R., Ohio) the Secretary of Defense would be an order secretary and three assistant secretaries for Army, Navy and Air Force.

► **30 Group Air Force**—To be reauthorized under a bill by Sen. Alfred M. Eide (D., Minn.), chairman of the Senate Armed Services Committee. Similar legislation was previously introduced in the House by Chairman Carl Vinson (D., Va.) of the Armed Services Committee last October.

► **Control Settlement**—Legislation making the airline industry for settlement of controlled passenger air traffic, such as the airline industry, was introduced by Sen. Owen Brewster (R., N.H.).

► **Five Year Plan**—For research in aircraft development, and production would have to be authorized in Congress next year by the National Military Airplane Act a bill by Senator William H. Cramer (R., Ohio).

► **Legislation**—The National Airplane Act a bill by Senator William H. Cramer (R., Ohio).

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against 1.75 cents for a Super DC-3 (but with a 20 passenger load).

While full load the direct cost is 1.28 cents for the "typical 40 passenger transport" 1.15 cents for the Super DC-3 and 1.66 cents for the regular DC-3. "Excess costs" is calculated by Douglas at 57 cents per plane mile for the Super DC-3 against 45 cents for the "typical 40 passenger transport." Use of DC-3s by Gulfstream airlines as seen operating 45 DC-3s in comparison with 513 a year ago. Regular DC-3s are targeted for obsolescence in 1992.

Douglas recently survived the airlines or their interest in the Super DC-3 project but has not yet announced any firm orders for the change. Parts of the modification work would be done at the Douglas Santa Monica plant.

WAA Has Chances For New Life

War Assets Administration, which still has surplus aircraft components with an original value of nearly \$300 million has a good chance to get a Congress second approval from the expiration of the agency scheduled Feb. 25.

The action pointing strongly in this direction.

President Truman's budget proposals which added Congress to transfer existing functions of WAA to a central program management agency. It is believed an extension will be necessary to allow time for drafting legislation setting up such a new agency.

Department of Air Force, who is to get out from under the global handling of surplus aircraft and components, and Air Force Secretary Spangher has

proposed Congress to take over the use of the unit before it gets it.

The President's draft assignment based principal surplus property, expected to amount Feb. 25 at \$5,100,000,000 in real property, of which \$750 million is on lease and between \$400-100 million in surplus components (original cost value) and a small number of leased aircraft valued at \$24,947,000 (original cost value).

Under terms of the 1949 Supplemental Independent Offices Appropriation Act, abolishing WAA as of Feb. 25, the surplus real property would be taken over by Reconstruction Finance Corp., and the surplus aircraft property, by the Department of Air Force for disposal.

Secretary Spangher's annual report last week warned that U.S. progress in aircraft disposal would be hampered by the increased need for handling surplus disposal. He pointed out that a deficiency appropriate for this new unit would entail preparing budgetary requirements increasing the already heavy workload of the Air Force Comptroller and the Air Materiel Command. He asked Congressional action before Feb. 25 to stop the impending transfer.

Spangher states in his direction, pointing legislation creating the central surplus management agency cited by the President, would be in violation of the WAA for 90 days at six months until members of a new agency could be shifted. With Congress in an open house of need to cooperate with the executive department, observes, think such an extension is likely.

Department of Air Force does have to take over the surplus aircraft

disposal problem, however, letters of intent regarding surplus have already been sent by Air Materiel Command to War Assets Administration agency to replace.

Continued to dispose of surplus aircraft and surplus parts as rapidly and efficiently as is practical.

• Unlike services of agency essentially at under WAA.

• Draw new contracts with all approved surplus effective Mar. 1 enabling agency handling of new transactions necessary under all contracts.

• War Assets Disposal Division, Air Materiel Command, Wright Field Dayton, Ohio, will handle the operating of disposal procedures according to general policies established at USAF headquarters, Washington.

• Col. John G. McGowley is chief of USAF's War Assets Disposal Division.

Mahon Named

Rep. George Mahon (D., Tex.) was named chairman of the House Armed Services Appropriations Subcommittee which will have a major role in deciding Air Force funds this year.

Mahon reportedly supported funds for a 70 Group USAF program last year and told American Wings that he has had no change of mind on the matter. (American Wings, Jan. 28).

Others named to the subcommittee: Rep. Harry Shoup (D., Calif.); Rep. Robert Smith (D., Fla.); Rep. Albert Engel (R., Mich.); Rep. Charles Stenholm (R., Tex.).

Williams Crash

U. Williams, Gulf Oil aviation sales agent and aviation show flyer, crashed his new Cessna 550 "Goldwing" and killed one student pilot on the flaming wreckage last week. The crash was at Santa Monica Airport, Santa Monica, N.C. on his way north after he had visited the plane at Miami Air Museum.

Correction

In the story on the bill on the Hill, the title was: "Ole Bill" as it appeared in American Wings (Jan. 24, page 12).

The title should be: Bill Air Force Corp. order for new F100. New helicopters at \$1.6 million in total of \$6 million. The Congress for 99 R-40s should be \$200 million instead of \$200 million leaving the Congress total at \$111 million.

American Wings regrets that typographical error.



John K. Northrop presents American Honorary Fellowship to Clark Milburn.



William A. M. Bascom makes his inaugural speech as a new president of the Institute.



Major Gen. Lawrence S. Kates, MA2S commander, addresses House Night dinner.

I.A.S. Meeting Accents Aviation Progress

Wide variety of subjects covered in 17th annual session; plans for future outlined.

In one of the most extensive events since even made its debut in progress and current status, the Institute of the Aeronautical Sciences (I.A.S.) met in New York and the four days of its 17th annual meeting to illustrate how the aerospace engineer's field of inquiry has broadened.

Three Monday morning until nearly midnight Thursday with time off for luncheon lunches and one formal dinner—about 1000 registrants could listen to lectures that ranged from rotating wing aircraft to laser engineering. Speakers covered such varied subjects as cloud physics and a liquid oxygen rocket for research. (See page 10.)

• Scope Expanded—The additional area of investigation necessary in aerospace is dictated by some of the organizations that joined I.A.S. in the program: the American Meteorological Society, the American Physical Society and the Institute of Navigation. The opening sessions, the rotating wing aircraft, was sponsored jointly by the Institute and the American Helicopter Society.

This variety of sessions now involved in aerospace is one reason I.A.S. expects to increase its activities greatly this year, according to Director & Paul Johnston. Another sign to activity is

the growing number of local sections throughout the U.S. and Canada.

• Fellowship Award—At the House Night dinner, outgoing President John K. Northrop, president of Northrop Aircraft Inc., cited other Institute efforts. On Mon. 24/17, I.A.S. will hold past meetings with the Royal Aeronautical Society of Great Britain in New York City, a follow up to the past meetings at which the British organization played host more than a year ago. Later this year, Northrop said, I.A.S. hopes to open its new buildings in Los Angeles and San Diego.

As one of his last acts as outgoing I.A.S. president, Northrop presented one of the world's most unusual awards and the two Honorary Fellowships and one Fellowship Award. Warren, Jan. 24. Two other I.A.S. honors, the Thurston H. Stone Award and Deane Clugston Award, were presented last summer at the 1st in Los Angeles meeting. It is expected that these two awards, which usually have been presented, will be made in the summer.

• Funds Included—Only one of the Honorary Fellowships, Clark H. Williams, whose director, Georgetown Aeronautical Institute, California Institute of

Technology, was present at the dinner. The other, the Foreign Honorary Fellowship, is Lawrence F. Wilson, secretary of the Royal Aeronautical Society. Northrop pointed out that no more than two Honorary Fellowships—one American, the other foreign—can be elected in any one year. They are chosen by the Fellows, now numbering 172. Northrop and out of a total I.A.S. membership of about 7000.

At the conclusion of the House Night dinner, William A. M. Bascom, former American Secretary of Commerce for Air Staff office in the same position.

During the course of the award presentation, Dr. W. Randolph Lichten, Jr., head of the section of energy, Lawrence Kates, and many of the John J. Jeffries Award, awarded that for the first time flight suggests an award of aircraft designers. He said that researchers had perfected equipment making it possible for a pilot to withstand a negative force of 1 G, but present fighter planes, he declared, are built to take a negative force of only 1 G.

Weather No Bar To Airlift Operation

All-weather flying operations have been made possible in the United States and there is no longer any relation between weather and the timing of air drives, ac-



EASY-TO-READ ALTIMETER

New model service testing by Air Force and Navy in Kollsman's 3300 altimeter (left) which eliminates two of the pointers and has a two-digit transfer to reveal altitude in thousands of feet (right) shows. (See p. 17). The ease to read feature is apparent in refer-

ence to the lower type of altimeter (right). Its plastic hand indicators are registering 15,000 ft. But in Kollsman's new, extra small in the thousands, lightweight altimeter shown, the first development of its kind, the complex design

acoustic layer is very thin, there is negligible softening of the shock.

Temperature and Velocity Profiles in the Compressible Laminar Boundary Layer with Arbitrary Distribution of Surface Temperature.—De B. C. Clemens and Murray W. Barber, High Speed Research Division, Ames Aeronautical Laboratory, NACA.

Established a method for calculating temperature and velocity profiles in compressible laminar boundary layer flow without pressure gradient but with arbitrary distribution of surface temperature. Final results are relatively simple and can be applied to any given case.

Effects of variable surface temperature on velocity and temperature distribution in boundary layer are shown to be pronounced. Example is presented which illustrates main essential features of boundary layer flows with variable surface temperature.

Theory is applied to calculate skin friction drag and to consider constraints under which addition of heat can contribute to flow separation.

STRUCTURES

Stress Functions and Density Variations in Flatter Aerodynamically-Bounded Aerodynamic Bodies.—J. A. Squire, Engineering, Massachusetts Institute of Technology.

Stress functions have been derived for computing relations of stress at all fixed stations in a rotating system. Theory is analogous to that between ordinates of a curve at a series of stations in development of Simpson's Rule. Use of the functions enables comparison of working with discrete stress and of having continuously deformed deflections. Examples show how to arrive with both for calculations of various modes and the determination of flutter modes.

As density variations have been considered as a means of fixing flutter on different corresponding to chosen value of flutter parameter λ . Advantages of scheme lies in extensive coverage of flutter performance at various stations and in simplification of calculations for hypothetical sets of frequencies and modes at air densities fixed in advance. **Theories of Plastic Buckling.**—De. S. B. Bhaer, Structures Research Division, Langley Aeronautical Laboratory, NACA.

Development of a technique, based on the plastic buckling of plates has been facilitated by re-examination of an established relationship between solutions in plastic range. A new theory of plasticity which is of arbitrary flow and deformation type has been developed. It is based on concept of slip and deformation was applied more to plastic range but by re-examination of conditions than previous theories.

Experimental evidence is in better agreement with the new theory than with either flow or deformation theories. New approach accounts for apparent contradictions and predicts use of deformation theory in the analysis of plastic buckling problems.

Theory and Tests on Plastic Stability of Plates and Shells.—P. P. Raju, Professor of Applied Mechanics, Polytechnic Institute of Brooklyn, Brooklyn. Practical design formulae are developed for plates and shells having various edge conditions and subjected to different loadings for the case when they buckle under stresses involving multi-axial elastic loads. Formulae are based on an analysis of plastic behavior of the structural elements. Results obtained from the theory are in good agreement with tests. Formulae are compared with results obtained by Boushais, Mandelstam and Prager, and Shierli.

AIR TRANSPORT

Military Air Transport Service Specifications and Requirements For Cargo Aircraft.—Major J. K. Hieck, Chief of Aircraft Material and Equipment Branch, MAHS.

Discusses Military Air Transport Service specifications for cargo type aircraft to achieve three primary factors: Ease of loading, ease of maintenance, and low cost of operation. Supplementary data are on the value of payload aircraft.

Endurance Orders for Transport Aircraft.—G. Kelso and B. L. McElroy, Technical Development Staff, and K. D. Kelly, Superintendent of Technical Development, United Airlines. Criteria for evaluating adaptability of a transport plane to specific type of operation are classified into the following groups: Operational economic safety, performance, weight and balance, customer comfort, and convenience. Each group is discussed with special emphasis on constraints and performance. Sample cost analysis illustrates method for incorporating carrying power of transport plane in a specific operation. Proposed to check list of costs that must be weighed in evaluating economic and operational utility of transports.

Aerobics Rules for Airline Navigation.—Adm-N. G. Board and R. W. Ayer, Director and Assistant Director, respectively, American Airlines, Inc.

American Airlines took a new level speed airline rule, revised it, and discovered that it had several important uses in commercial airline operation. Flight records presented from their route fly below level of hill tops with ease and security when the rule is used. Transitions could be not only avoided but anticipated more dangerous ones could be avoided and safe spots in deep frosts found with ease.

Using route borders as repulsions

placed on ground at each end of a leading runway, simple and precise navigation approaches could be made, precise approach- and cross-country navigation was available, and method of passenger information by pilot was developed that was superior to usual system of dash and gaps.

Supplied Monitoring System for Air-Borne Electronic Devices.—W. L. Lark, Chief, Support Projects Unit, Electronic Analysis Section, Air Material Command.

The information is intended to assist an American industry in the development and construction of a German system of electronic and replacement equipment of electronic equipment in the expectation that future requirements for both ground and airborne electronic devices will specify incorporation of these improved features.

System is projected in two-sectored slave-self-contained capacity to permit rapid and easy isolation of faults, and simplified method of fault correction. Problem in this investigation was to measure eye measurements while flying by instruments without visual reference to the ground. Forty USAF pilots, representing a range of experience from "top self" to "novice" were used to subject eye-camera results were taken during live precision maneuvers, blind approaches using ILS and approaches with GCA.

Conclusions are that average eye fixations on instruments are from 1/2 to three times as long as fixations in reading. It appears that eye movement patterns are a function of difficulty of interpretation resulting precision accuracy, and importance of displayed data. Data models useful for evaluating particular instruments and instrument assignments.

Some Important Causes of Disorientation in Flight.—John Corbett, Captain, NACF USN, U. S. Naval School of Aviation Medicine.

A pilot can become disoriented in flight in result of stimuli from sources other than those from the horizon using naturally. Reasons for this are to be found in the complexity of the navigation task and the response by various stimulus receptors. Pilot is faced with the necessity of being properly oriented to the plane, to the earth, and possibly to other objects in air. Disorientation to the plane usually poses difficulties because man can be provided by the eye the horizon and the way horizon can be moved with uncertainty and down into slits. Of all these only visual cues can be relied upon for orientation to the earth. The effect is reducing stimulus receptor force to which the pilot is subjected often in a direction away from the horizon. Hence orientation to the plane cannot rely on the eye's orientation to the earth.

The *NEW* Marquette model 3V hydraulic wiper

... is the result of 10 years of experience in this highly specialized field. It incorporates every feature that is desirable and practical, based on thousands of installations on military, naval and commercial aircraft.

gives you all these advantages

- Blades are synchronized at all times
- Glasswiper in path of blade will not stall it.
- Blades may wipe in same or opposed direction
- Blades are parked and locked when wiper is not in use.
- Universal drive arm and tie rod require minimum slack of parts
- Wiper blades are easily replaced.
- Pressure is recovered from system when not in operation.
- Minor unit may be located at any position in the airplane.

- Stroke on each window can be varied.
- Hydraulic tubing attachment feature covered and provides additional space for mounting other instruments.
- Minor unit and window unit are universal, providing maximum interchangeability of parts.
- Constant torque valves through minor stroke
- Uniform stroke at all speeds.
- Simplicity of design, resulting in lower first cost and reduced maintenance expense.



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K-190 Has Control Simplicity, Ruggedness

Kaman's intermeshing-rotor, utility copter emphasizes ease of handling, inherent stability, low maintenance.

By Saving Space

WINDSOR LOCKS, Conn.—Easy control and precise maneuverability are the signature features of the K 190, Kaman Aircraft Corp.'s novel, streamlining new helicopter.

The ship already has structural approval and is now in the final stages of work for CMA certification.

• **Operation Highlights**—Specifically designed for utility in agricultural and industrial applications that rely on cost-effective, instantly instantaneous control response—an important feature in tight budgets.

It displays a wide margin of reserve power, very rapid responsiveness and deceleration, and an ability to go through and recover quickly from abrupt maneuvers without noticeable confusion.

Another operational highlight reported is its ability to house practically any topology or code used with very little

The anticonvulsant characteristics of

the craft demonstrates desirable safety or emergency features. Automotive retail discount is specified to be 1100 £200 less, at gross weight condition.

It is expected that the craft will be certified for a zero roll indication and give a distinct advantage in rough field emergency or maintenance—a prime consideration from a cockpit operator's point of view—would seem to be an unusual feature of the K-790. It is reported that an approximately 720 hr. of running there has been no replacement of parts. That is attributed to the craft's

■ **Novel Flip Action**—Key feature is the K199 design in the screw flap, located at 75 percent radius station and serving to control pitch of the blades. The blades are fabricated from a block of laminated spruce planks and connected intransmissibly at the root. To induce flap movement there is a positive built-in block root.

With flap action, the blade twist gives the user a full flap function and

Apparently, the Ray and Howe system are not as work as they twinkle or men would seem to make it. This is

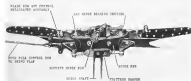
Proof of the low stresses are derived to have been substantiated by, strain gage studies at critical condition (low rpm/high gross weight). These investigations are reported to indicate that blade life is not detoured by stress less factors.

• **Stabilization:** From Flap-Mounted at the rear of the rotor blade, the servo flap tends to move the center of pressure of the blade forward imposing the flutter characteristics of the rotor by producing a stabilizing force.

The strains are reported to be as pronounced as to give the appearance of a white solid with large compressing and it is obtained with an increase in material.

Stimulus action of the β_{2A} has al

Base catalyzed, rate of decay fast



Being both and little variations

lowed the use of a high left pedal, a modified Clark Y. This allows a slight increase in steering performance in keeping with the slight function of the axle—to give slow speed, high-left efficiency.

The servo flap control has greatly simplified the engine control system. Eliminating blade pitch change bearings has resulted in the use of simple, rugged, and inexpensive roller bearings.

Podar hsh is a new shoe type employing black leg lugs. Into black cushion is dispensed through the use of brown foot devices.

► **Control Connections**—Pilot controls are conventional. There is a cyclic stock,

[illegible]Basic Data
K-190 Center

Empty weight	1700 lb
Crash weight	2500 lb
Useful load	800 lb
Seating capacity—pilot and two passengers	

Fuel capacity	12 gal
Engine	190-hp Lycoming O-415
Range	137 mi.
Optional rating	11,000 lb.
Crew/Load	75/2000

Cruising speed	70 mph
Top speed	91 mph

Eagles and falcons are raptorial birds.



Control, measurement, detail

below and to rear of main transverse
is a 6-cylinder, air-cooled flywheel Q-415, with maximum rating of 190 hp
at 2000 rpm

Fuel supply is by gravity feed from two interconnected tanks (1000 capacity of 52 gal.) located fore and aft of the motor shaft above the transmission.

Location of the engine places it close to the craft's c.g. and provides easy access for maintenance and replacement.

Tailcone is held to engine mount by four bolts. Removal of these bolts and disconnection of rudder cables permits disassembly of the tailcone as a

Coupling is accomplished by a SS in

the fan is splined to the propeller shaft and surrounded by a collector ring which directs air to the engine cooling passage box.

► **Transmission**—A centrifugal clutch mounted on the engine side of the fan belt covers at 1320-1330 engine rpm.

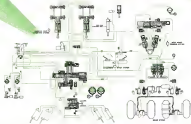
and drives a simple spur gear transmission mounted on the engine nose. The first transmission, with 1:1 gear ratio,

transmits power to the drive shaft which is born, drives the main transmission on a free wheeling unit. The drive

A single disk hydraulic motor brake is located on the rear transmission of the

Basic Data K-190 Copter	
Empty weight	1700 lb
Crew weight	2500 lb
Useful load	800 lb
Seating capacity—pilot and two passengers	
Prod. capacity	32 gal
Engine	190-hp Lycoming O-415
Range	375 mi.
Operational ceiling	11,000 ft
Cruising speed	76 mph
Top speed	95 mph

TESTS PROVE



This diagram shows complete hydraulic system of a DC-4

SKYDROL SUPERIOR HYDRAULIC FLUID

Skydrol is a new, non-flammable hydraulic fluid developed by the joint research of Monsanto Chemical Company and Douglas Aircraft Corporation. It has been extensively tested and proved to be a superior pressure transfer medium that gives extra safety, extra performance and extra economy. It is profitable now for aircraft installation. Read what the tests prove. Compare Skydrol with any other hydraulic fluid. Write or mail the coupon for complete information... today.



DID NOT BURN when Skydrol was poured hot up to 190°F. Extra safety. Safeguards in violation of hydraulic laws.



DID NOT RUBIN when subjected to disintegration of belts circulating in hydraulic lines.



SUPERIOR LUBRICANT for moving parts of system. Pumps run more than twice as long as with ordinary petroleum hydraulic fluids. Essential because it lasts longer — parts come longer.



STABLE in heat, pressure and shock. Does not thicken even after long, hard service. Shows nearly no loss of the strength, volume or viscosity.



NON-CONDENSES. Does not become any more used in hydraulic system. Saves money from trouble-free operation.



NON-TOXIC either as fluid or fine mist. Harmless in spill and maintenance. No poisoning fumes if ever leaked. No special handling and storage problems.

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Please send literature on Skydrol

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Company

Street

City State

SENDING INQUIRY TO WHICH DESERVES HANDLING



two wheels, and to stop the rotor quickly after engine shutdown.

Also, transmission gear train is split together into the 1:1 ratio of the two transmissions, this gives a ratio of 1:1 between engine and rotor. Change in rotor current engine, and rotor speed is achieved by adjustment of magnetic gap pins in the two transmissions only.

Lubrication for the two main transmissions is supplied from the engine via separate delivery lines (one main line), and cooling is achieved by position of rotor transmission cooling jacket the fan.

Main transmission lubrication is by oil pumped from the oil tank. The pump is driven by the transmission shaft and is of gear type. Lubrication during acceleration.

The system includes a high capacity selector, mounted on the side of engine cooling fan intake ring.

Rotor shaft on top of main, under, changeable pin above the main rotor. Reason to facilitate removal and installation. Starts on chains only. Starts with the engine change, rotor of the bottom and a cross take for the top drive wheel of the top.

→ Airframe—Structure is welded chassis body steel beam. Layout of the center section above remains of the fuselage was without disturbing the engine.

Installation forward of the center section is supported by a platform, and is easily accessible.

A standard engine mount ring, using the shaft of the center section, and five drive shafts.

Because the volume is so substantial, it is believed by company engineers that it will be feasible to increase the gross weight of the unit from 2500 to 3000 lb without change in structure, at one point. (This would require a lighter horsepower engine but since the power plant now installed exhibits ample reserve power, it is a long shot, adding of 1000 lbs by "margin" will allow the normal to the highest gross weight.)

Main landing gear cross member is a single piece 1/2-in. tube connected to the structure by two parallel tie rods. Two tie rods are connected to the center section lower longitudinal pivot rotation of the landing gear cross member.

Main and nose landing gear shock struts are in line. Nose gear is full cantilever with a trailing shock to assure proper wheel position for running landings.

Production plans for the K-190 call for an initial output of 20 units. Already, orders for electric and hydraulic have been received, and additional for some of these are now being constructed.

Price of the helicopter is scheduled to be \$35,000.

NEW AVIATION PRODUCTS



Servo Test Instrument

Model 5 Servo Analyzer made by High Research Engineering Corp., Richmond, Va., is a precision servo test instrument used for measuring dynamic response of d.c. or r.f. ac servomechanisms, servo amplifiers, and servos. Damping and resonance voltages for obtaining frequency response in transfer function are provided over frequency range of from 1/10 to 5 cps and 1 to 60 cps. Damping and resonance outputs may be changed from apparatus control while voltage is continuously varying d.c. voltage by turning panel switch. When connected to servo system under test it provides data only obtainable by lengthy computations or plotted methods.



Utility Compressor

Scalable for small engine drive, portable in compressors made by DeWitt Co., 300 Phillips Ave., Toledo 1, Ohio, weighs just 12 lb. and can be operated from wall plug. Unit can hold large capacity spray gun at 15 lb. pressure and deliver smooth, continuous flow of air with power and volume weight to apply spray materials without excessive shaking. In control sticky device, it can be used in steady pressure as supply. Compressor is available separately or with complete spray outfit.

Soldering Set

Light duty, 450w "Thermo Grip" soldering tool is designed to conserve energy, lasting almost only when in good contact with the part to be soldered. Made by Medall Industries, Inc., Spencer, Ill., device completes the secondary power circuit upon touching wire and center part to heat almost instantly. Heat transfer switch permits close heat control. Complete set of accessories includes plug attachment for meeting and connecting copper tubing, soldering tips, terminals and other work of that type. Tool easily used with two 3-in. electrodes for connecting into insulated pipes, panel attach used with one 3-in. carbon electrode for spot and light touch soldering. There are two soldering joints, 53 and 42.



Here are the 36 places on transport planes where Pesco PRECISION Equipment is used

Ever since transport operation of aircraft mechanisms became prerequisite Pesco has been specializing in building fuel and hydraulic equipment for Aerospace's commercial and military planes.

From the days of the first hydraulic pump to today, when you will find Pesco equipment in 36 places on our large jet liners, the design and construction of this equipment has been guided by the exacting requirements of the aircraft industry. Because precise performance and proven parts have been in mind, there has been no compromise with top quality and performance.

That's why Pesco developed "Precision Loading" for hydraulic pumps, an exclusive patented feature that automatically compensates for wear and maintains highest operating efficiency over a wide range of oil pressures and volumes. That's why Pesco designs and builds its own electric motors — in that all electric motor-driven units are an integral part of the hydraulic or fuel unit, ensuring top operating efficiency. That's why, today, America's leading builders of jet engines have standardized exclusively on Pesco high-pressure fuel pumps.

Take advantage of this engineering skill and know-how. All the facilities of Pesco — the largest manufacturers of specialized aircraft fuel and hydraulic in the world are at your service.

KEY TO THE Pesco Precision Equipment Industrial Abbreviations:

1. Big jet-driven hydraulic pump
2. Pressure loading pump
3. Oil transfer pump
4. Surface control transfer pump
5. Electric motor-driven hydraulic pump
6. Hydraulic pressure relief valves
7. Hydraulic flow restrictors
8. Pressure reducing valves
9. Engine-driven fuel pump
10. Motor-driven fuel transfer pump
11. Fuel transfer pump
12. Engine-driven vacuum pump
13. Oil separator
14. Section relief valves
15. Air pressure relief valves
16. Electric Motor for Cabin Ventilators
17. Cabin heater fuel pumps

Pesco

PRODUCTS DIVISION
BOG-WARNER CORPORATION

11020 Euclid Ave. • Cleveland 5, Ohio



SUPERCHARGERS



HOW TO INSTALL AN OIL SEAL IN 10 SECONDS FLAT

■ It can be done—even on an inaccessibly dull like the one pictured here—with a Johns-Manville split-type Clipper Seal. Just three simple steps complete the job:

(1) Push the detachable outer spring around the shaft (2) Spread the end of the split as shown above, and slide it over the shaft (3) Slip the outer spring inside its groove in the seal and press the assembly into its cavity

That's all! Installation is actually a matter of seconds. Cordy 'down time' is reduced to a minimum. And you can remove the seal just as quickly and easily—without damage.

Completely new in principle, Clipper Seals have no metal core. Their rigid but and soft flexible lip are molded into a single unit in plastic and all of superior lubricant-resistant, anti-dielectric qualities. The outer spring allows life protection, contributes to more effective sealing and longer life.

Clipper Seals are made in both split and coil-type and are available for shafts up to 60" in diameter. They are often needed for testing expensive oil, grease, water, air, gas and coolants at operating temperatures up to 350 F.

For further information, write for brochure JM-51A. Address: Johns-Manville, Box 290 New York 36, New York.



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Packings and Gaskets • Friction Materials • Insulations • Asbestos Textiles
Transite Conduit • Transite Pipe • Industrial Building Materials

PRODUCTION

Sellers Index

Munitions Board issues list to tell producers where services buy.

A new index of military procurement, issued by the Munitions Board in Washington last week, is designed to be a useful tool to assist manufacturers who sell products to the Air Force, Navy or Army.

Approximately 90 major products now included in the consolidated purchasing program of the three services are listed with indication as to which military purchasing office has been assigned responsibility for procurement of each item. These include most of the principal items now purchased by the services.

One for All—In some cases one service buys for all three and in other cases a joint purchasing setup is arranged. As examples, Air Force buys all photographic equipment. Navy buys all hand tools, and Army buys telephone equipment, while Armed Services Production Purchasing Agency buys petroleum, oils and lubricants for all three departments.

Products listed include all bombing equipment in effect as of Jan. 1. Assignments to each service were based on agreements reached between several committees on which all three services were represented. Final decisions came from the procurement policy council, composed of Maj. Gen. F. M. "Pop" Powers, USAF; Rear Adm. M. L. Ring, Navy; and Maj. Gen. D. Niles, Army.

Principal warrent purchasing offices: AF—Procurement division, Air Materiel Command, Wright-Patterson AFB, Dayton, Ohio; NA—Bureau of Aeronautics, Navy Department, 19th St. and Constitution Ave., Washington, 25, D. C.; NY—Naval Aviation Supply Office, Gravelly Ave. and Marine Mill Road, Philadelphia, 15, Pa.

All three of these offices have assignments to purchase aircraft engine propellers and airframes.

AMC Procurement division also purchases airborne rigid inflatable rafts, even. Rifle and photographic equipment except medical X-ray film, and the Naval Aviation Supply Office purchases transmitters and clocks (spring and electric, including nonmagnetic and quartz).

Outrigger purchasing office of interest to aviation concerns and the joint staff they purchase include:

A-12—Pentam Airco, Dover, N. J.; Bards, La. Industries and subsidiaries, distributors and shapers, designers, firms, mechanical, time and V. T. relays, wires, signals, grenades and components.

A-13—United Aircraft, Philadelphia, 37, Fire control equipment, and laser, mechanical, time and V. T.

A-14—Rock Island Arsenal, Rock Island, 15. Rocket launchers, machine guns (except air); 60 caliber machine guns (except air).

A-15—Springfield Arsenal, Springfield, 1, Mass. Machine guns 18 to 50 cal. and small arms.

A-16—Watson Arsenal, Watertown, N. Y. Guns, howitzers, mortars and rifles, 25-mm. and above.

N-6—Bureau of Ordnance, Navy Dept., 19th St. and Constitution Ave., Washington 25, D. C. Boats, fuel and submunitions, base, mechanical time and V. T., high explosives, propellers, machine guns, supplies and miscellaneous explosives, mines, naval and aerial and components, gas powders, rockets, mines, signals, grenades and components.

Construction and retaining equipment for airports and the products they include are purchased by:

A-1—Chicago procurement office, Army Corps of Engineers, 226 West Jackson Blvd., Chicago 4, Ill. Engineering and designing equipment, rendering machinery (transportation, mining, paving and related equipment), road and permanent airport, marking leveling and construction equipment (stationing, measuring and road preparation equipment for road and ports), aircraft-related machinery and equipment (industrial, tractor, earth moving equipment).

Copies of the complete index, printed on a single sheet for hand use, are issued and designed to make contacts with the services easier for business house products to sell may be obtained by airmail. Addresses: Armed Services Munitions Production Board, Washington 25, D. C.

Navy Announces New Allocations

New unannounced allocation of \$72,287,000 in additional fiscal 1949 funds for aircraft and equipment procurement. These funds were the major part of an \$80-million allocation certified for expenditure last week by President Truman.

With these funds the Navy will begin 120 Vought Corsairs (F4U SN) for \$70, 669,000; 90 Bell HTL helicopters for

\$64,000; 16 Lockheed TF-80C for \$4,017,000; 3 Goodyear ZPN patrol for \$3,184,000.

Additional authorization: \$11,322,000 for plant facilities; \$6,165,000 for aircraft electronic equipment; \$9,800,000 for modification and repair of additional spare parts; and \$1,001,000 for a general reserve. Allocation of the remaining \$7,791,000 will be announced later.

Canadian Firm Moves

Canadian Car and Foundry Co., Ltd. has moved its aircraft manufacturing activities into one quarter in Montreal. It formerly occupied leased facilities there, but has purchased its own buildings. George Avroth Manufacturing Co., a subsidiary, will soon have operations at Dorval airport with the reconstruction of the "Loadmaster," a two-engine cargo aircraft designed by Vincent J. Burnell.

Canadian Car and Foundry is currently overhauling a large number of North American "Harvard" trainers for the Royal Canadian Air Force and will manufacture the "Nanuetan," a large, single-engine cargo airplane designed by Robert Nodders.

Coolers for British

Standard-Thermco Corp., Duluth, Ohio, has completed negotiations for the manufacture of aluminum oil coolers and radiators for British aircraft and has shipped 1000 Standard-Thermco Co., Ltd. in British agents and Standard-Thermco, Ltd. in London. The company is studying the possibility of building Standard-Thermco plants in either England or Canada to supply coolers and equipment to British contractors.

Hell Diver Overhaul

New in overhauling 254 Curtiss SB2C-5 Hell Diver bombers at Naval Air Station, Corpus Christi, Tex. A portion of the planes are those withdrawn from storage pools and others are being completely disassembled and rebuilt incorporating numerous modifications. The bombers will be assigned to various active units throughout the country upon completion.

C-46 Overhaul

Grand Central Airport Co., Glendale, Calif., has been awarded a \$2,500,000 Air Force contract for modification 100 C-46s. All 100 planes, which are now in storage at Walnut Ridge, Ark., scheduled to be ready for the USAF by Sept. 30. Grand Central Airport contract on 100 C-46s for the Chinese Air Force last August.

Sea Island Service



The Sealand is chosen

Founded on the border of the Caribbean is the key to a new revenue source for the popular Sea Island. B.N.A.C. the subsidiary of B.N.A.C. has recently selected this island as the most desirable island for several years among the West Indies islands.

They could not have made a better choice.

The Sealand, which is equally happy to be used as an island for the purpose of a three-day tour or as a day and night tour.

B.N.A.C. now "Sea Island Service," which will operate daily between Trinidad and the Windward and Leeward Islands, will call upon the Sealand for all kinds of work.

For itself

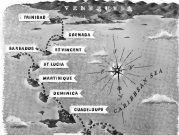
At least of work? Yes, because there is a perfectly designed, the Sealand as the most desirable island for all kinds of work.



Using the Sealand is a simple business carried out daily by the pilot.

It is to be used for the rapid transport of passengers or freight, as a luxury flying office, or as an island. In any of the roles it will give the greatest return to the tourist cost.

The Sealand's range is short. With 34 engines and a payload of 1,200 lbs.—which is more than in any passenger and baggage—the Sealand can cover nearly 400 miles at a speed of 200 mph. But the most important part of the service, now in a state of development, is the Sealand's service to the island. It is a service which is not only a service to the island, but also a service to the island.



It is L.L. Sealand's only flying aircraft, and the most used "fly right" of the island. It is also used for all kinds of work.

There are only a few reasons for its continued value to charter companies and for the island.

For Others

On the "Sea Island Service" the Sealand's role is to be used for the rapid transport of passengers or freight, as a luxury flying office, or as an island. In any of the roles it will give the greatest return to the tourist cost.

But the most important part of the service, now in a state of development, is the Sealand's service to the island. It is a service which is not only a service to the island, but also a service to the island.

Shorts

THE FIRST MANUFACTURERS OF AIRCRAFT IN THE WORLD

Short Brothers or Richard Ltd. Queens Island, Belfast

London Office: 17 Grosvenor Street, W.1

FINANCIAL

Instability May Spur Mergers

Lack of business leaves industry three choices: liquidate, diversify or consolidate. Latter seen as most logical.

Whatever investment status the aircraft industry previously enjoyed was seriously impaired by the sharp consolidation of the National and North American markets.

This abrupt Air Force action highlights the extreme vulnerability of any company with the government as its sole customer. The aircraft industry always was characterized by a high degree of selectivity with shifting patterns causing untold losses. Sudden cancellations and reallocations of orders usually focus its disaster on the highly speculative nature of the industry.

True, the purchase of Convair is now regarded as the company's good fortune in obtaining a stable place at business by accident. Air Force dictate at the expense of other business. But how secure can such positions feel when it is realized that similar acts of pressure and cancellations are always at play and may result in another crash of the aircraft industry, this time at the expense of Convair?

Security banking—in the same manner, no aircraft company can feel secure with its government business and such banking, remaining intact by the driving engine.

Recent shifts in aircraft trends stem from the cancellations made necessary by the Air Force as a result of President Truman's budget recommendations. Although these recommendations still are subject to congressional action, the industry feels that liquidation will be required. The industry feels that liquidation will be required. The industry feels that liquidation will be required.

Compulsory liquidation by court official action is the recommendation of the President's Air Policy Commission and of the Congressional Aviation Policy Board. The committee reports issued by these independent groups a year ago represented strong hopes for the aircraft industry that at least had a definite end to the industry as to be introduced into the industry.

Certainly no accusation of him against the final report of the two inquiry groups. A thorough, penetrating effort was made to ascertain of the facts and to advance the same, per se, which were constructive and

could be supported by the country. The quality of the two groups and their sponsorship of recommendations was a major factor in the industry's confidence in the industry.

Most Probable—Other recommendations and boards may be created to judge the health of the aircraft industry. Reports of how well qualified, however, the same fact and confidence in the industry's fulfillment of the final recommendations will be lacking. Recent reports of policy and the consequences of the industry's failure to meet their task for some time to come.

Probably the most surprising hope for the industry in the aircraft industry is the present for mergers and consolidations which now appear to have taken a firm step toward a result of some development.

The uncertainty of aircraft trends recently have made the fact that their industry is not enough military business available during the period to keep the aircraft industry profitable and

Plant Capacity—There is a great need of plant capacity to serve the present level of available business. At peak levels during the war, "on call" airframe production was at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Applying the same estimate, they should support an additional 191 million aircraft annually per year of work. It follows that the industry is in a position to supply the aircraft industry capacity under conditions and at a rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Consistent with this evidence and potential capacity in the estimated 17 million aircraft per year of work. It follows that the industry is in a position to supply the aircraft industry capacity under conditions and at a rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Top Air Force officials did it difficult

to justify the aircraft industry's position in the aircraft industry. The industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Financial situation point out that after the war the industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Most Likely—Liquidation is part of the industry's position in the aircraft industry. The industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

The aircraft industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

This may appear to conflict with the Administration policy of reducing down on various industrial conditions in other fields. Actually, it is not the case. The industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

Nevertheless, there are other changes that can be advanced which would be consistent with the industry's position in the aircraft industry. The industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

At the outset, there may be an extraordinary amount of revenue from the separate aircraft industry. Strong evidence of the industry's position in the aircraft industry is at the rate of 10 to 15 per cent per year. According to testimony introduced at the hearings of the President's Air Policy Commission, the present capacity of the aircraft industry is at the rate of 10 to 15 per cent per year.

SALES & SERVICE

Cessna In Front

High dollar volume, airplane shipments, are reported in 1948.

Bar Alexander McSherry

Cumax Aircraft Co. boosted dollar volume of its 1945 personal airplane sales \$700,000 above the dollar total for 1947, and took a strong lead among light plane manufacturers in a year when no many light plane companies existed.

Dennis L. Wallace, Coconino president, reported a 1986 sales total of 56,732 lbs. on a net billing price basis. Coconino also had 48 other personal glass manufacturers in the number of places shipped with a total of 1633 glasses. (Bryce Air Craft Corp., nearest competitor, has 789 pieces behind Coconino.)

Tribuna is the largest Greek news distributor covering all of Western Macedonia and Thessaloniki, with a management and general delivery to the Top 100 Greek Clubs, composed of the 10 distributors who showed the largest sales volume. Included: Makedonia Sport, Macedonia O.N.S. Panfilidaki Living Services, Skopje, S.S. Gold Youngling, Kerkira, Thessaloniki, Chelmos Acropolis, Drosos, Wilton Acropolis, East Athin, H. Makedonia Acropolis, Northland, H. Corone, Makedonia, St. Pauls, Buzel, Laskar, H. 1992 Service, Makedonia, Laskar Living, S.S. St. Regis, Makedonia, and Laskar Acropolis, St. Detroit.

A total of 40 distributors were cited for losses as members of the "Plus" Club, for doing a larger dollar volume of new airplane sales in 1945 than in the previous year.

[illegible]

List sources Zurich, Switzerland: American
 Chemical Company; Karlsruhe, Germany:
 Henschel, Belgium: Syntho Service
 Ltd., Mons, Ind., Indochina, Zurich:
 Montecatini & Sarnes, Cigari, Merck,
 Ansonia U.K., Ansonia H. C.,
 Longwood & Sons, Glendon Ltd., Smith
 & Clark, Ansonia-Hemans, Ger-
 man: Lander, Ansonia-Cotto, Amer-
 ican Ltd., Gouda, Ciba, Ger-
 man Ltd. L. Gouda, British West
 India, Ansonia S. A., Ansonia Acti-
 vado, Ansonia S. A., Ansonia S. A.

Virginia, San Juan, Puerto Rico, Elmer
to Francisco S. A. Montañón,
a virgin, and Carlos Figuer, Carlos,
Venezuela.

The vacuum pump components were in addition to extensive non-routine tests, done by the manufacturer on miniature hydraulic cylinders and hydraulic systems for Farm equipment, and on clothing buckles.

• **First Importance** — In the month dedicated to *Cosmo*, annual report, the first view taking Sept. 30 1945 President Wilson stated that sale of parts and accessories for *Cosmo* airplanes was becoming an increasingly important part of the company's sales volume. At that time the company reported sales of parts and accessories



MIAMI WINNERS

Myer Witman (above) and Bill Bonstead hold a public at the conclusion of the Communist Winter Village plane case trials at Miami, Fla., in which Witman took part in his "Rustin" plane and Bonstead, his rising partner, finished second in the Witman-designed "Rustin" sailboat. The O'Moore, Wis., team made speeds of 176.857 and 174.184 mph respectively. Note center.

back as Wilkerson-designed propeller. Below, Beverly Howard, (center) Chabasso, S. C., lead base operator, and three team international aerobics champions, receive his fourth championship aerobics trophy presented by Maj. Al Wilkerson, Gulf Oil engine company, at the Midco Air Museum. At left a James Kinsman, Continental Motors vice president and chief engineer.



The Foreman of this progressive shop (left) consults with a Gulf Lubrication Engineer on results with Gulf L.S. Cutting Flow in machining clock parts.

Costs Down-Production Up!

³ "We've sharply reduced turn per piece, improved surface finish, and greatly extended the number of pieces per tool grind since we switched to Gulf L.S. Cutting Base," says this Foreman of Mien Screw Machine Products, Inc., Waterbury, Conn.

"On our new 34" automatics we are performing two turning, one threading, and our cut off operation on a steel clock part at the rate of 1.2 seconds per piece. With the turning of we used previously, the time per piece was much higher."

"Just as important to us has been the increased number of pieces per tool grind. With Gulf L.S. Cutting Base we are now running 16,000 pieces before regrinding of the tools is necessary. Add the fact that we are getting better finishes, and you can see why we're gratified by our experience with this fine cutting oil."

Here's another example of how the proper application of the right Gulf quality cutting oil improves production and lower costs. To make sure that you're getting all the benefits possible through the use of more suitable cutting oils, call in a Gulf Lubrication Engineer today.

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Religious Safety Matters

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New Orleans • Houston • Louisville • Toledo



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 Joint Gulf Marketing Partnership, Inc.

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new improved Gold L.A. Gilding Item.

Name	Age	Sex	Height	Weight
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PACKAGED DESIGN SPEEDS YOUR INSTALLATIONS
The Type 378A is a complete radio system in a compact, ready-to-install package. Its design is for easy installation in a remote location. It is designed for use in aircraft.

PROVEN COMPONENTS INSURE QUALITY AND PERFORMANCE—The Type 378A VHF Receiver and Type 378A VHF Transmitter (20-watt) are the top-rated components of the 378A. Its rugged, reliable and built-in test facilities, plus the fact that it is a complete package, make it the choice of many airlines.

NEW AIDS TO CONVENIENT OPERATION

The adaptive handset, with its convenient push-to-talk feature, gives you both hands free and no fiddling with the handset. The 378A includes dual frequency read-out and speaker system that can be used in the cockpit.

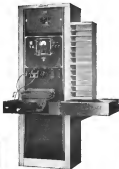
SIGNAL OR SILENCE CONTROL—If desired, the control panel can be removed and the 378A completely enclosed, which is an excellent feature for the operating position in a single adapter or in a portable control equipment.

*When used with the 1000 equipped with the new WILCOX Type 371A, the 378A VHF Transmitter is the choice.



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for Comm planes during the first nine months of 1946, at over 31 million. The manufacturers reported total sales of \$14,255,221 and earnings of \$182,894, or 79 cents a share of stock outstanding, for fiscal 1946. It paid a cash dividend of 25 cents on Dec. 6, making the eighth consecutive year in which stockholders received a dividend.

Wallace reported that diversification of products contributed a great deal in reducing all equipment. Comm had 1575 employees on the payroll at the fiscal year's end, compared to an average employment for the year of 1514.

Air Scholarships

Four leading U. S. aviation technical schools are offering 30 free scholarships to students living near an 11 Latin American country, with awards to be announced in May.

Wayne Wenders, Assistant Training Society secretary, Washington, who is acting as liaison representative for the scholarships, said that they are offered by Calicut Technical Institute, Los Angeles; Eastern Middle Institute of Aeronautics, Miami; Pittsburgh (Pa.) Institute of Aeronautics; and Spartan School of Aeronautics, Tulsa.

Nations to which scholarship offers are being made include Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, Ecuador, Uruguay, Panama and Bolivia. Grants amounting to approximately \$10,000 cover tuition only and scholarship winners will provide their own transportation to the U. S. and return, and living expenses in the U. S.

New Responsibility

Milwaukee County (Wis.) has announced that after Feb. 1 gasoline sold and taxolines at General Billy Mitchell Field will be the responsibility of the two fixed base operators, Anderson Air Activities and Midwest Airlines, Inc., and that the county will no longer handle fuel sales and taxolines.

Announcement followed retirement of Maj. S. E. Peters after many years of service as manager of the principal Milwaukee airport.

1949 Cruiser

Ballou's Aircraft Corp. has announced a pricing of \$1070 Ryan New Castle, Del., on the 1949 model four-place Ballou's Cruiser. New features include redesigned instrument panel with indirect lighting, generator flight group in standard, including rate of climb, fuel and turn, sensitive altimeter and electric adjustable front seats, heater for both front and rear seats, new color schemes.

BRIEFING FOR DEALERS & DISTRIBUTORS

MINNESOTA FIXED BASE ANALYSIS—Of 29 Minnesota fixed base operations replying to a recent questionnaire from the state aeronautics department, 15 expected their gross dollar volume for 1946 would be larger than in 1945, and 14 it would be smaller, and six said it would be about the same. The group had a total investment in buildings, aircraft, shops and accessories of substantially over \$1 million, and spent this had approximately \$250,000 in maintenance. Continuing shortages of hangars, shops and service facilities, was seen as a major problem.

Analysis of the report indicated that major losses resulting from too rapid expansion and poorly adapted equipment have already been sustained with prospects for a slow but steady growth and opportunity for reasonably profitable operation in the next few years. Minnesota had a total of 125 fixed base operations as of Sept. 1, 1946.

MASSACHUSETTS CONVICTION—First criminal proceedings under the new Massachusetts Aeronautics Commission legislation on "misappropriation of aircraft" resulted in conviction of Edwin L. Martin, Cambridge, on charges of misappropriation and concealment and reckless operation.

Frank Swancy, chief state aeronautics inspector, presented evidence showing that Martin took a plane from the hangar at Belmont Woburn Airport, at 10:30 p.m. Nov. 23, and attempted to take off with 150 lb. of coffee. He climbed to 300 ft. and then landed in the water.

The trial was presided over by Judge John F. Murphy. He was given a three-months' term of correction (suspended) for the misappropriation charge, and fined \$100 on the other charge.

FIRE RETARDANT COATING—Regal Air Corp., New York, maker of the Re-Glo protective coating for airplanes, is aware that somewhat proof of a recent trademark from Jack Deffen, Phoenix, Ariz., shows exact, who thinks that a Re-Glo job on his airplane probably saved his life.

Deffen started to make an emergency landing on a highway near Phoenix and his life was in jeopardy. He was unable to land, and the wing began to catch fire near the cabin. Instead of spreading, however, the fire remained localized and was extinguished by the airplane. Deffen flew on to his home at Phoenix, and found that the fire had not touched the metal structure of the wing, and that the structure suffered considerable reduction damage but that the flame damage to the fabric was negligible.

The manufacturer insists that laboratory tests have shown that fabric treated with Re-Glo is 50 percent slower burning and 35 percent stronger than ordinary doped fabric.

COAST GUARDS AWARD—Radio manufacturer, Arthur Godfrey, who has been a constant plunger for aviation in his programs and who continues, especially in his Navy lectures at his Virginia home and New York studios, won the 1946 National Flight System award presented by Dick Powell, NPS president, as the private pilot who has done most to promote private flying in America.

SPORTSMAN'S SHOW—Five of the principal four-place business and personal planes are scheduled for display at the National Sportsman's Show at Grand Central Palace, New York City, Feb. 19 through 27, and exhibited by local distributors. The planes and their exhibitors include Beechcraft Business, Atlantic Aviation Corp., Cessna 370, Perzoni Aircraft Sales, Piper Family Center and Piper-Stein, Salt Lake City, and Ron Nelson, Midland Air Service.

Accessory manufacturers, suppliers and all companies will also have a number of exhibits along with additional aviation exhibits by an Air Force News, and CAA.

AIR ASSOCIATES AT GRAND CENTRAL—Opening of a New Air Associates supply store and workshop at Grand Central Airport, Glendale, Calif., has been announced. The station supply store formerly operated by Grand Central in discontinuing retail sale, but the Grand Central company will continue to act as distributors for the various aircraft products it has handled in the past.

—ALEXANDER McSWEENEY

Damon Accepts TWA Presidency

Former American Airlines official joins forces with Howard Hughes, bitter enemy of overseas monopoly.

Ralph S. Damon, who resigned two weeks ago as president of American Airlines following policy disagreements with board chairman C. R. Smith, has been elected president of TWA.

In his new post, Damon will be in a strategic position to combat AA's proposed sale of American Overseas Airlines to Pan American Airways, which this deal would bring the final link between Damon and Smith.

At TWA president, Damon succeeds LaVette J. Cole, who resigned last June 1 to become president and general manager of Consolidated Vactor Aircraft Corp., Stuart Cabel's daughter, Warren Lee Brown, TWA's board chairman, has been in overall charge of the carrier's policies and operations.

► **Long Friendship Cried** — Howard Hughes, who has a controlling interest in TWA, finally prevailed on Damon to accept the new post. A friend of Damon's father-in-law, Hughes had been long, cherished the hope of bringing the former AA executive into the TWA organization.

Two years after the acquisition of LaVette Cole, it is reportedly thought of Ralph Damon as his first

choice to succeed Cole. Hughes declared "However, I was aware of Damon's intense feeling of loyalty to American Airlines, and I felt that an approach from me would be unwise."

Then, Hughes continued, "I began hearing reports of Damon's dissatisfaction with the ongoing sale of American Airlines' overseas division to Pan American Airlines. I heard that Damon had made up his mind to resign as president over this transaction. I immediately contacted Damon and invited him to come to Los Angeles for a talk."

► **Birds Chorus** (Continued from "He did so, and I found that, in addition to our long-standing friendship, we shared a feeling against the so-called chance instrument" favored by the Americans.) I asked Damon if he would consider the prospect of TWA. This led to further exchanges between us, and finally, Damon informed me he was willing to accept."

Damon's decision to take the TWA post came five days after his formal resignation from American. "When he left American, Damon and I had no plan to succeed, but events were otherwise."

Damon's decision to take the TWA post came five days after his formal resignation from American. "When he left American, Damon and I had no plan to succeed, but events were otherwise."

ready to accept that he would go with TWA," (Continued from Jan. 24), A general reaction of TWA's directors in Kansas City demanded 24 hours after the company's presidency barely 24 hours after he told Hughes he would accept Damon will take office Feb. 10.

► **Solving Economic** Reports will be under stood that Damon's salary with TWA may not be the highest paid current in the air transport industry. During 1947, latest year for which figures are available, C. R. Smith had the industry's highest annual salary—\$60,000. Damon received \$40,000 during the same year.

Hughes, who has been a bitter foe of the "chance instrument," demonstrated the idea of a "pragmatic leader" to certain individuals for the elimination of competition in constant air transportation and for the creation of its place of use, private stock or monopoly. Damon and I saw it in eye in the same Hughes declared.

► **Strategy Planned**—Ever before Damon resigned from American, TWA was working out its strategy to combat the American Overseas Airlines sale to Pan American. As one step in preparing the case for sale during CAB's legal machinery in a hurry, TWA is ready to ask the Board to re-examine the whole North American side structure as part of the procedure.

A purchasing conference on the AGA has been called for transfer proceedings will be held by CAB on Jan. 14—only a month after the case was dropped. A further change in the program is tentatively planned for early March, but a batch now developing in the Board's highly expedient timetable for considering the case.

Feeder Activation Awaits RFC Loan

Plans for activation of the nation's largest feeder network are stepped up closely with expected early action by the Reconstruction Finance Corp. as a \$600,000 loan application.

Pan Am Lines, which now serves 4000 miles of short haul routes in those separate CAB domains during 1946 and 1947, had hoped to start service as part of its revenue loss. But in forced and formal recognition by RFC will have been in progress nearly a year without a final decision.

Actual applications for the RFC loan was made by Pan Am Lines Sales and Service, Inc., which controls the feeder. At first dinner, ago, Pan Am had for apparently was not satisfactory to CAB and therefore, not acceptable to KFC. Approval of Coastal Upgrades—Details of the feeder's financial and operational status in a recent CAB summary to

part which urged the Board to grant conditional approval to the proposed acquisition of all Pan Am Lines served by Pan Am Sales and Service, Inc. The summary said that sales prior to now has been obtained from CAB, even several transactions between Pan Am and Pan Am Lines should be reviewed. He added that Pan Am Aircraft would not sell its own stock to raise funds for the feeder without first obtaining CAB approval.

Pan Am's plan to convert the DC-3s which Pan Am Lines would own on its feeder lines. This transaction would involve between \$100,000 and \$200,000. In addition, Pan Am Aircraft would service the feeder's planes at a cost estimated between \$1000 and \$6000 monthly.

► **Stock Sale Proposed**—The parent company's attempt to raise \$500,000 from RFC is subject to the condition that half of the money would be lent to the airline and the other half would be the carrier's stock. After activation of the feeder's DC-3s, Pan Am Lines and Cape-Span City, Inc., both with RFC and additional funds needed to open other routes would be obtained by selling stock in other Pan Am Lines in Pan Am Aircraft.

Pan Am's entire assets in its south in Memphis and Tulsa, assets in Chicago and the Twin Cities, were in New York City and out to Indianapolis. If RFC action to raise the \$500,000 loan, Pan Am hopes to be able to launch the feeder operation through use of about \$2 million worth of rail property, including airports.

All-time High

An all-time high in all-time high at the close of 1946, with the relatively new air parcel post service contributing importantly to the upward trend of an airmail traffic.

Preliminary reports indicate that December's air mail traffic has, in fact, exceeded \$4,000,000 in 1946, against \$3,135,000 in the same month 1947. Air mail shipments in the first 11 months of 1948 exceeded \$4,779,259 in 1947, well exceeded the volume for all of 1946 by over \$4,000,000.

Nonaked Enjoined

Modern Air Transport, unincorporated carrier active in the New York-Miami Puerto Rico run, has been enjoined by a federal court from continuing regularly scheduled operations in violation of the Civil Aeronautics Act. The case was one of several being presented by CAB attorneys in an effort to have irregular lines to restrict the frequency and route limits of their services in accordance with the unincorporated monopoly.

Low Fares Rouse New Protests

United and Eastern believe bargain tariffs are not enough to cover depreciation and overhead costs.

Continued efforts by individual airlines to generate more passenger business with lower rates have stirred strong new protests from carriers trying to maintain their current cost structure.

United Air Lines and Eastern Air Lines are leading opponents to the trend toward bargain fares. They believe that some of the tariffs proposed by their competitors are economically unsound, possibly providing sufficient revenue to pay overhead costs, but not enough to cover depreciation and overhead.

► **Costal Study Urged**—The 16 percent industry-wide fare hike instituted with CAB backing late last summer has been delayed by subsequent reductions that United has found its net revenue gain is only 3.5 percent. With basic fares up only 3.5 percent since 1941, against a 70 percent rise in costs, UAL is urging cost studies of airline and "fuel" fares.

► **Headed Costs**, United's top manager in charge of traffic and sales, has emphasized his company's opposition to Capital Airlines' proposed service between New York and Chicago and TWA's proposed 24-passenger DC-3 coach operation between Kansas City and Los Angeles. (Continued from N.Y. Capital's "No-ghost" case.) United has a 77 percent loss factor in December. TWA's proposed lowest Kansas City-Los Angeles operation is slated to

start in February of CAB approval.

United is maintaining its analysis of the coach fare problem. But it wonders whether second-class operations would be profitable to anyone, if its statistics, Capital's basic computations also reflect coach rights between New York and Chicago.

► **Right Rule Seen**—TWA's proposed Kansas City-Los Angeles coach fare is a "ghost" which can be eliminated by a second-class fare. This would be a second-class fare between New York and Kansas City and then the TWA DC-3 coach on the West Coast.

United UAL protest against Western Air Lines' plan to estimate a 50 percent 5 percent fare cut on Feb. 1—the reduction to be made possible by elimination of first-class on all flights (Continued from N.Y. Capital's "No-ghost" case.) United has a 77 percent loss factor in December. TWA's proposed lowest Kansas City-Los Angeles operation is slated to

► **Mail Cost Challenge**—Western's opposition for mail has been considered. Less than 5 percent of its total operating cost, according to UAL's complaint. During the second quarter of 1947, United paid its own cost of fuel and returning of over 1.9 percent of total operating expenses.

► **United's** (Continued from N.Y. Capital's "No-ghost" case.) United has a 77 percent loss factor in December. TWA's proposed lowest Kansas City-Los Angeles operation is slated to

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Western has stated first distances between cities on its routes are not such that second-class would require real service. Before passing the new tariff, Western had in its equipment selected their coach on its system where it fed revenues in respect to second-class while the coach would be loaded and normal.

This method met with favorable public response according to UAL officials.

► **Sto-Pit** (Continued from N.Y. Capital's "No-ghost" case.) United has a 77 percent loss factor in December. TWA's proposed lowest Kansas City-Los Angeles operation is slated to



LOBBY LUXURY AT TOLEDO

The new \$155,000 airport terminal at Toledo, O., with its modern structure in the U. S. from the standpoint of design and decoration, according to airline officials who have inspected the building. Housing the waiting and baggage handling facilities of all airlines, the terminal also accommodates the office of the aviation commission, a restaurant, snack bar, gift shop, flight

terminal and observation deck. Structure is part of a \$155,000 airport terminal project financed jointly by the city of Toledo and the Civil Aeronautics Administration. Lobby has walls of chrome bronze mirrored with blue, aluminum bronze mirrored with silver and indirect lighting. Glass floor and overhead lighting. United Air Lines and Capital Airlines staff counters on three



Feeder Activation Awaits RFC Loan

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PROMOTION BOOST

American Airlines and their expense paid and delivered to all local shops in Albany, N. Y., recently, promoting distribution of Green Lines on Albany Eastern routes.

Time for Caution

Two events recently have aroused as much interest in airline circles as Ralph Darnon's unexpected resignation from the nation's largest domestic carrier to unite with a national rival and its personnel, meet and always the same chief stockholder, Howard Hughes. Scarcely the lesser light between Sonnie Breyer, the great first American, Verano and Hughes' first step.

Another reason for the keen industry interest is that there are, for men in aviation who enjoy the confidence and respect that Ralph Darnon commands. And such a man willing to fight for principles is usually a man who is worth watching.

It looks the mother pitched battle in this very competitive and hard-passed industry. For American wants to buy American Overseas from American. American's chief executive is willing. So the aggressive PAA, which always knew what a winner seen their own war most likely toward its goal to be the sole U.S. flag international airline.

Editorially, American White-as well as its predecessor, American News-has always remained unswervingly opposed to immorality by definition. It still is. We oppose any Congressional attempts to let us see the U.S. international air carrier.

Business dealings between our own airlines, however, are another matter. In the U.S. economy of one company attempts to sell out to another, that is its own business. Thus, as long as it is necessary for them, met by law, in the field of transportation, however, the appropriate government agency must first find no objection to such transactions on the basis of public interest.

It is difficult for us to see how the sale of American

Overseas will mean better public service than ADA and PAA now offer separately. Certain economies would be doubtfully be possible. But the Civil Aeronautics Board must decide when economies start becoming inhibitors to public service and national defense.

U.S. airlines are so far ahead of their foreign counterparts in all respects that the only kind of competition which now serves to advance the state of the art is the competition between the U.S. airlines themselves.

The proposed deal would cut out one of the three U.S. main Atlantic carriers, and we hope that does not happen. But if CAB should approve the deal, it would be difficult to accuse it of an Americanism. We suggest that Mr. Hughes and Mr. Darnon submit their own bid for American Overseas and let CAB decide the next move.

At any rate, as we sit in the grandstands watching this "bizarre spectacle", as the circus side say, let us not forget the hidden potential danger in the industry.

This, like so many other problems, is another test of strength for the men in the Civil Aeronautics Board. Let us not provide the same load of thoughtless action in the White House that occurred in the Roosevelt era. The President finally became so unconvinced by the publicity involving the conflict haggling among members of the Independent Air Safety Board that he abolished that very important body altogether. We have not yet recovered from that blow.

We must guard even more against thoughtless, precipitous action on Capitol Hill, which could set the industry back many years.

The impending struggle has dangerous possibilities.

The King Can Do No Wrong

You can see the government of the United States of America under your constitutional rights. But the great city of New York, New York, is not to be denied.

This fact probably accounts for the high handed attitude of the Authority in its conduct with the airlines. Because the Authority recognizes no arguments but its own, no rights of airlines, no willingness to assume the slightest responsibility for the small number of companies that are necessary to meet reaching a difficult task.

It has followed up its refusal to license the airline. It will spend money made with the city, by issuing down the lower union offer. This, despite the current request made from the bench in New York Supreme Court Justice (Theodore J. Caff). These of the airlines had offered to accept any difference in charges, to be determined later, for the use of the new Boeing Stratocruisers being delivered now. Eight airlines have gone to court to compel otherwise in the laws.

George W. Whitehead attorney representing the airlines has a powerful argument. Denying the Authority as "The omnipotent body", he pointed out that as a landlord in the three New York metropolitan airports it is acting as a pro-

prietor and not in an agency of government. Nonetheless, he met, in the strictest meaning of the Authority, is there any specific proof of immorality.

"That stems from the old doctrine of the divine right of Kings—that the king can do no wrong. But sovereignty after sovereignty has abandoned such claims. The Federal government can be said. So can the State of New York. If the courts can then be said it is inevitable to assume that the claims of the sovereign, the Post Authority, is immune to the processes of a tribunal of justice."

Regardless of the legal points on each side, or the reality of the Authority's claims that airlines must pay more for less use of the airports, there is no reason for the Authority's stubborn refusal to permit the beginning of a constructive solution while the basic differences are being settled.

Distances have never had long range in this country because public opinion and common sense of the people has always been able to win out over heavy legal tactics. The Post Authority is in danger of outwearing itself on this deal because if it really has the public interest at heart it will make use full operations are collapsed as those three airports.

ROBERT H. WOOD

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The North American F-86, powered by a General Electric TG-190 (USAF Type J47) turbo-jet engine, is the "blue ribbon" winner of the new official world speed record of 670.981 miles an hour.

Piloted by veteran ace Major Richard L. Johnson, the turbo-jet plane bettered its own unofficial record of 669.75 mph set of the National Air Races at Cleveland. The F-86 was completely armed and carried a full complement of ammunition. The new record was announced on Air Force Day by General Hoyt S. Vandenberg, Chief of Staff of the Air Force.

The TG-190 power plant of the super-streamlined F-86, was developed and produced by G-E's Aircraft Gas Turbine Divisions at Lynn, Mass. The former speed record of 650.796 miles per hour was set by a Navy Douglas D-558 "Skystreak" propelled by the General Electric designed TG-180.

General Electric research and engineering works continuously to improve existing products and to devise new means to assist its associates in the aviation industry. G-E leadership in the development and production of engineered systems and precision products for aircraft is available to you by contacting your nearest G-E office. Apparatus Department, General Electric Company, Schenectady, New York.

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